layer;

a source region of the first conductivity type provided inner surface of said conductive region and exposed on side surface of said trench;

a gate insulating film provided on the side surface of said trench, an upper part of the gate insulating film being in contact with a lower part of said source region, a bottom part being in contact with an upper part of said drain layer, and a middle part being in contact with conductive region;

a gate electrode material provided in contact with said gate insulating film in said trench;

a source electrode film provided in contact with at least said source region exposed at least on the side surface of said trench and electrically insulated from said gate electrode material, said source region being substantially square when viewed from a direction parallel to said side surface of said trench.

2. (Amended) A transistor according to Claim 1, further comprising a drain electrode film formed on a surface of said semiconductor layer located opposite said drain layer.

6. (Amended) A transistor according to Claim 4, wherein said insulating material has a thickness of at least 0.01 μm and at most 1.0 μm.

7. (Amended) A transistor according to Claim 5, wherein said insulating material has a thickness of at least 0.01 μm and at most 1.0 μm.

10. (Amended) A transistor according to Claim 1, wherein said semiconductor layer is of the second conductivity type.

11. (Amended) A transistor comprising:

C2 a semiconductor substrate having a drain layer of a first conductivity type and a conductive region of a second conductivity type formed by diffusing an impurity of the second conductivity type from a surface of said drain layer;

a trench provided such that it extends from a surface of said conductive region to said drain layer;

a source region of the first conductivity type provided in inner surface of said conductive region and exposed on side surface of said trench;

a gate insulating film provided on the side surface of said trench, an upper part of the gate insulating film being in contact with a lower part of said source region, a bottom part being in contact with an upper part of said drain layer, and a middle part being in contact with said conductive region;

a gate electrode material provided in contact with said gate insulating film in said trench;

a source electrode film provided in contact with said source region exposed at least on the side surface of said trench and electrically insulated from said gate electrode material,

said source region being substantially square when viewed from a direction parallel to said side surface of said trench; and

a metal film formed on a surface of said drain layer opposite to said conductive region to

establish Schottky contact with said drain layer.

Please add claims 16 - 19 as follows:

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16. A transistor comprising:

a semiconductor substrate having a semiconductor layer, a drain layer of a first conductivity type formed by diffusing an impurity of the second conductivity type from a surface of said drain layer;

a trench provided such that it extends from a surface of said conductive region to said drain layer;

a source region of the first conductivity type provided inner surface of said conductive region and exposed on a side surface of said trench;

a gate insulating film provided on the side surface of said trench, an upper part of the gate insulating film being in contact with a lower part of said source region, a bottom part being in contact with an upper part of said drain layer, and a middle part being in contact with said conductive region;

a gate electrode material provided in contact with said gate insulating film in said trench;

a source electrode film provided in contact with said source region exposed at least on the side surface of said trench and electrically insulated from said gate electrode material,

wherein the transistor comprises a plurality of said source regions and outer periphery of each of said

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~~source regions is exposed at a side of upper part of said trench.~~

17. A transistor according to claim 16, wherein each of said source regions is annular when viewed from a direction parallel to said side surface of said trench.

18. A transistor comprising:

a semiconductor substrate having a drain layer of a first conductivity type and a conductive region of a second conductivity type formed by diffusing an impurity of the second conductivity type from a surface of said drain layer;

a trench provided such that it extends from a surface of said conductive region to said drain layer;

a source region of the first conductivity type provided inner surface of said conductive region and exposed on a side surface of said trench;

a gate insulating film provided on the side surface of said trench, and an upper part of the gate insulating film being in contact with a lower part of said source region, a bottom part being in contact with an upper part of said drain layer, and a middle part being in contact with said conductive region;

a gate electrode material provided in contact with said gate insulating film in said trench;

a source electrode film provided in contact with said source region exposed at least on the side surface of said trench and electrically insulated from said gate electrode material,

said source region being substantially square when viewed from a direction parallel to said